

SERIES 800 FLOWMETERS

Type 804 Electromagnetic Insertion Flowmeter

Valeport's Type 804 and Type 804 mini are fully waterproof, electromagnetic insertion flowmeters that offer industry standard performance coupled with robust build quality and reliability, all backed up by Valeport's exceptional customer service and support mechanisms.

Our Type 804 insertion flowmeters will measure bi-directional flow rates as low as 0.02ms^{-1} and up to 5ms^{-1} with accuracies of better than 0.002ms^{-1} . Add a real time temperature measurement and we can help you manage your water distribution networks.

A highly cost effective solution due to reliability, ease of installation and recovery, with no interruption to supply, for pipe diameters from 100mm to 2000mm.

- A standalone Type 804 has up to 4 years battery life, as standard
- The flexibility to interface to all data loggers, telemetry systems or SCADA systems through fully documented and open data protocols
 - Available protocols: pulse | RS232 | RS485 | Modbus RTU
 - 4 – 20 mA can be supplied through an external module

Key Features:

- High accuracy at low velocities
- Bi directional flow measurement
- Low power | long battery life (4 to 10 years ^{note 1})
- Digital signal processing
- Direct data output - open protocol
- Internal self check: in accordance with OIML R49, type P
- Integrated temperature
- Pressure monitoring port (max 20bar)
- 3 year warranty

Note 1 - Depends on observation schedule and external battery modules.

Operations:

- Hot tap installation with a safety chain
- Permanent installation
- Temporary deployment
- Flow monitoring:
 - night flow
 - meter testing
- DMA & zoning surveys for leak detection
- Metering: reservoirs | treatment and pumping stations
- Expert mode for data diagnostics



Type 804

Type 804
mini

DATA SHEET

Product Details



ELECTROMAGNETIC
INDUCTION



CURRENT



UTILITY SOFTWARE

CERTIFICATION



Certified to
NSF/ANSI/CAN 61

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Related Products

Data Display Module (IP68)

- Backlit LCD display | 2 lines of 16 characters
 - velocity | flow | totaliser: positive, negative, net
 - alarm: flow: high, low | no water | low battery | power failure
- Power: battery packs | external: 20 to 28 V
- Outputs: 2x pulse | RS232 | 4-20mA output

Pipe Internal Diameter Gauge

- Various insertion lengths

Outputs

Direct

- Pulse
- RS232 \ RS485 with optional Modbus RTU protocol
- 2x Contact closure: dosing, alarm, flow

External Module

- RS232
- Pulse | 4 to 20 mA
- SMS | GPRS | 4G
- Bluetooth

Sensor: Technical Specifications

The Type 804 measures the flow of water based on Faraday's law of induction to generate a voltage proportional to the flow speed of the water.

Operational Performance

Bi-Directional Flow

Range	from a minimum of to a maximum of	0.02 ms ⁻¹ 5.0 ms ⁻¹
Accuracy	Steady, fully developed flow: less than 0.1 ms ⁻¹ greater than 0.1 ms ⁻¹	±0.002 ms ⁻¹ ±2% <i>minimum conductivity of 20µs/cm required</i>
Temperature	from a minimum of to a maximum of Accuracy	0° C 50° C ±0.5° unit

Operational Characteristics

Operational Temperature

Electronics	from a minimum of to a maximum of	-20° C +60° C
Sensor Element	from a minimum of to a maximum of	0° C +60° C

Operational Pressure

Internal to Pipe	to a maximum of	20 bar <i>safety chain to be fitted</i>
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Humidity	fully potted solution for tropical environments
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IP68 NEMA 6	10 metres for 72 hrs <i>with connector mated</i>
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Units - User Selectable Options:

mm Metre Foot
Litre Megalitre metre ³ Kilometre ³
Ft ³ Kilo Ft ³ UK Gallon Kilo UK Gallon
Mega UK Gallon
US Gallon Kilo US Gallon Mega US Gallon
Second Minute Hour Day
Centigrade Fahrenheit

Electrical Power

Battery	Internal: Lithium primary cell x2 External: Optional packs
External Power	3.6 V DC cabled options available
Power Consumption	0.7mA - typical scenario
Connector	Souriau - 10 way

Physical Characteristics

Materials	All materials in contact with the water are approved by WRAS: Stainless Steel - 316 Brass Nickel plated Brass PVC PVDF Nitrile Rubber - 4470
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Dimensions (mm) – Type 804

Insertion Length	300 500 700 1000 special
Sensor diameter	22
Stem Diameter	19
Electronics Module	diameter: 106 height: 80

Pipe Connection	1" (25mm) BSP 1" NPT
Weight	<3 kg

Dimensions (mm) – Type 804 mini

Insertion Length	300
Sensor diameter	15
Stem Diameter	12.3
Electronics Module	diameter: 106 height: 80

Pipe Connection	¾" hot tap BSP or NPT
Weight	<2 kg

Communications

The instrument will operate in real time over a serial connection
Set up is carried out using a PC App before deployment

Analogue	2 pulse outputs – isolated, four options: <table border="0"> <tr> <td>flow</td> <td> </td> <td>direction</td> </tr> <tr> <td>forward flow</td> <td> </td> <td>reverse flow</td> </tr> <tr> <td>forward flow</td> <td> </td> <td>temperature</td> </tr> <tr> <td>dose output</td> <td> </td> <td>dose output</td> </tr> </table> <i>up to a maximum of 50Hz</i>	flow		direction	forward flow		reverse flow	forward flow		temperature	dose output		dose output
flow		direction											
forward flow		reverse flow											
forward flow		temperature											
dose output		dose output											

Digital

RS485 Modbus RTU	4800 up to 38400 8N1 or 8E1
Data Available	point speed average speed flow totalisers: positive negative net signal quality temperature

Calibration

The Type 804 is calibrated in a purpose built facility against multiple flow speeds to a traceable standard

Software

Valeport supply Windows software for instrument set up and real time display

Ordering

Contact Valeport Water, or your local Agent

080402-3-xxx-YYY	Type 804 Insertion Flowmeter
080403-3-001-YYY	Type 804 mini Insertion Flowmeter

xxx = insertion length	001 = 300mm 002 = 500mm 003 = 700mm 004 = 1000mm
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YYY = fitting size	BSP or NPT
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Datasheet Reference: Type 804(m) EM Insertion Flowmeter | February 2021

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